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• EDITORIAL •

The Danger of Misconceptions of Business Earnings

There is little doubt that people generally are quite satisfied with the material progress which has been made under a system of free enterprise but it is apparent that there is much dissatisfaction in respect to the distribution of its benefits. It is quite evident that this reaction comes from an exaggerated idea as to the amount of profits earned by business firms, which is born of suspicion and presumption in the absence of accurate and authentic information.

We cannot blame people for these misconceptions for they have not been acquainted with the true facts. For the most part, published statements only state the total amount of net earnings and it is left to the imagination of the individual as to the total investment and volume of sales required to earn the amount stated as net profits. It was quite a revelation to many people when Burns & Co. published, during the recent strike in the Packing Industry, a chart which indicated they made a profit of 35 cents on $100 of sales. It was a simple statement of fact illustrated in the form of a chart which could easily be understood by anyone.

Much has been written recently on the presentation of financial statements in an effort to better indicate the elements, sources and disposition of profits. It is essential that this information be conveyed to the public in such a form that the public will be able to readily comprehend the true facts of business operations. Otherwise there can be no assurance that the people of this country with the best of intentions but mistaken assumptions will not endorse legislation which will destroy our present economic system. Malicious propaganda has its most devastating effects where ignorance of facts, misunderstanding and misconception prevail.

Management is generally very reluctant to reveal financial information respecting the operations of their companies, but it is infinitely better that people should know the whole truth than to accept distorted half truths. It is largely a matter of educating the public in the true facts as to the benefits which accrue to all factions of our economic structure, and the accountants, being the authors of the reports containing these facts are in the best position to initiate such a project. But they must have the backing of management.

A Chinese philosopher of the 5th century said: "If you are planning for one year the best thing is to sow grain. If you are planning for 10 years the best thing is to plant trees. If you are planning for a lifetime the best thing is to educate men."

The most potent and dangerous weapon to-day is nefarious propaganda and the only defence against it is knowledge based on fact.

International Financial Policy

The Canadian Chartered Accountant recently reported a speech by the Honourable Douglas Abbott on this subject. While the ground covered was complete and interesting, it can be repeated as may be perceived in the following portions.

Most Canadians know something about our domestic financial policy during the war and through the transition period since the end of the war. That Canada should take a leading part in international financial affairs is quite understandable. Economic isolation for Canada as for all countries in the modern world is as impractical a policy as is political isolation.

Export trade is the basis of Canada's employment and prosperity.

Without good export markets and healthy export industries, Canada cannot be prosperous.

We must proceed now to manage our own affairs with care and diligence and to participate to the best of our ability in carrying out the operation of the new international machinery which we have helped to establish. Only in this way can we enable our industries, our farmers and our miners to find satisfactory export markets through the years to come.

Trois-Rivieres Chapter Formed

One of the most enthusiastic organizational meetings ever held in our Society took place on October 23rd in Trois-Rivieres, Quebec. The only unfortunate part of the meeting was the fact that the attendance so far exceeded expectations that a number were unable to sit down to dinner in the Blue Room of the Chateau de Blois. Mr. Reginald Lambert and Mr. Jean Paul Pepin did a remarkably fine job in promoting the meeting and creating local interest.

As is their custom, officers of The Cost & Management Institute and members of the various Quebec Chapters indicated their intense interest in the formation of the new Chapter by their presence. President D. R. Patton, Past President Percy W. Wright, J. B. A. Merineau and A. V. Madge, both past Chairmen of the Montreal Chapter, came up from Montreal. From points along the St. Maurice Valley came Vice-President Henry Pike, A. F. Gurr, Chairman of the St. Maurice Valley Chapter; Dr. C. N. Crutchfield, R. Hebert and Don Peddie. Then from Quebec City there was Past President A. J. Dolbec, P. H. Dorval, Chairman of Quebec City Chapter; J. R. Gauvin, Secretary of the Quebec City Chapter, and M. Godbout.

Much of the success of the meeting was attributed to the very capable manner in which it was conducted by the Chairman, Mr. Gaston Baribeau, C.A. Good wishes were expressed by the Deputy-Mayor of Trois-Rivieres. The aims and objects of the Society, its history and activities were outlined by D. R. Patton, President of Cost & Management Institute, and J. N. Allan, Secretary-Manager, Canadian Society of Cost Accountants & Industrial Engineers. Greetings of the various Chapters were expressed by A. V. Madge, from the Montreal Chapter; A. F. Gurr, from the St. Maurice Valley Chapter; and P. H. Dorval, from the Quebec City Chapter. Good wishes were also expressed in French, by A. J. Dolbec and J. B. A. Merineau.

Following the addresses, a resolution was passed that the Trois-Rivieres Chapter be formed and 52 of those present made application for membership in The Cost & Management Institute. Mr. Patton then took the chair for the election of officers, and as a result the following were elected to office:

Chairman ..... Gaston Baribeau, C.A.
Vice-Chairman ..... Emile Jean
Vice-Chairman ..... C. O. Baptist
Treasurer ..... Reginald Lambert
Secretary ..... Guy Renaud, B. Com.

Directors—Jean Paul Pepin, Colonel J. G. Cining, Phil Kimball, Geo. S. Clair, G. E. Lavalle, Roland Nobert, C.A.

We take great pride and pleasure in welcoming the Trois-Rivieres Chapter and its members into our Society and we extend to them our very best wishes, good fellowship and continued enthusiasm which was so much in evidence at the organizational meeting.

The Trois-Rivieres Chapter becomes the fifth Chapter of The Cost & Management Institute and the twenty-fourth Chapter of The Canadian Society of Cost Accountants & Industrial Engineers.

New Members

Eastern Townships Chapter

Michael Valeriote, MacDonalds Metals & Plastics Ltd., Waterloo, Que.

Fort William - Port Arthur Chapter

Morris C. Hartley, Marathon Paper Mills of Canada Ltd., Port Arthur, Ont.

James Peter Boyle, Chapples Ltd., Fort William, Ont.

Hamilton Chapter

George J. McQueen, Hamilton General Hospital, Hamilton, Ont.
Murray J. Speers, 92 Fairholt Rd. South, Hamilton, Ont.
Pearl E. Byrnes, Wright, Erickson, Lee & Company, Hamilton, Ont
John Redding, Canadian Industries Ltd., Hamilton, Ont.
J. Gordon Tancock, International Harvester Co., Hamilton, Ont.
Edward J. S. Innes, International Harvester Co., Hamilton, Ont.
Ronald J. Baker, Peller Brewing Co. Ltd., Hamilton, Ont.
Edwin Kennedy MacKay, Coke Oven Co. of Canada, Hamilton, Ont.
David K. Powell, Steel Co. of Canada Ltd., Hamilton, Ont.
Melville R. Morrow, Canadian Westinghouse Co. Ltd., Hamilton, Ont.
Lorne H. Cartwright, Cosmos Imperial Mills Ltd., Hamilton, Ont.
John E. Cronin, Cosmos Imperial Mills Ltd., Hamilton, Ont.
M. J. Pothier, Ferrey Coal Co. Ltd., Hamilton, Ont.
Andrew Stewart Beck, Steel Co. of Canada Ltd., Hamilton, Ont.
Gaham Beard, Brantford Coach & Body Co. Ltd., Brantford, Ont.
McCready D. Reid, Peller Brewing Co. Ltd., Hamilton, Ont.
John G. Meier, 75 Edgemont Ave. North, Hamilton, Ont.
Donald W. Wallace, 273 King St. West, Dundas, Ont.
Robert Boyd, The Bell Thread Co. Ltd., Hamilton, Ont.

A. A. Conway, Commercial Engravers Ltd., Hamilton, Ont.
James Vincent Guidice, T. H. & B. Ry. Co., Hamilton, Ont.
John William White, Steel Co. of Canada Ltd., Hamilton, Ont.
Douglas J. Hurst, Building Products Ltd., Hamilton, Ont.
A. Allan Watson, Canadian Industries Ltd., Hamilton, Ont.
David A. Gervis, Hendershot Paper Products Ltd., Hamilton, Ont.
Wilma Easterbrook, Vi-Tone Products Ltd., Hamilton, Ont.
David G. Marshall, Canadian Industries Ltd., Hamilton, Ont.
George Henry Burgess, 261½ James St. North, Hamilton, Ont.
Douglas Clemo, International Harvester Co. Ltd., Hamilton, Ont.
Thomas Lawrence Ellis, Canadian Vegetable Oils Ltd., Hamilton, Ont.
Winifred Stevenson, Buildings and Grounds Office, McMaster University, Hamilton, Ont.
Michael Bobor, Irvington Varnish & Insulator Co., Hamilton, Ont.
George B. VanSickle, Bell Telephone Co. Ltd., Hamilton, Ont.
Arthur Eckersley, Steel Co. of Canada Ltd., Hamilton, Ont.
John Cox, Steel Co. of Canada Ltd., Hamilton, Ont.
Hazel M. Duncan, Y.W.C.A., Winston Hall Branch, Hamilton, Ont.
Charles M. Lifeso, McIlwraith School, Hamilton, Ont.
Joseph Thomas Wilk, Meakins & Sons Ltd., Hamilton, Ont.
Frederick D. Sloan, Steel Co. of Canada Ltd., Hamilton, Ont.
Albert G. Thomson, Steel Co. of Canada Ltd., Hamilton, Ont.
Donald Douglas, Buntin Gillies & Co. Ltd., Hamilton, Ont.
Roy W. Thompson, Mercury Mills Ltd., Hamilton, Ont.
W. L. VanVelsor, Howard Sand & Gravel Co. Ltd., Aldershot, Ont.

Kingston Chapter

Harold E. Crawford, Gould Storage Battery Ltd., Kingston, Ont.

London Chapter

Bruce Norwood Crosby, Canada Vulcanizer & Equipment Co. Ltd., London, Ont.
Herbert Harold Luscombe, 130 Delaware Ave., London, Ont.
John Morrison, National Woodenware Co., St. Thomas, Ont.
Bloss E. Doupe, Dept. of Veterans' Affairs, London, Ont.
John N. Duffy, Dept. of Veterans' Affairs, London, Ont.
William Monroe, Dept. of Veterans' Affairs, London, Ont.
Donald Keith Park, Hobbs Glass Ltd., London, Ont.

Niagara Chapter

Wilfred E. Williams, Atlas Steels Ltd., Welland, Ont.

Ottawa Chapter

Teresa Stock, Dept. of Finance, Parliament Bldgs., Ottawa, Ont.
Harold Parker Roddick, E. B. Eddy Co., Hull, Que.
Earl R. Darby, Henry K. Wampole & Co. Ltd., Perth, Ont.
Frank C. Stokoe, Henry K. Wampole & Co. Ltd., Perth, Ont.

Toronto Chapter

Douglas McClure, Bell Telephone Co. Ltd., Toronto, Ont.
George Lawrence Innes, Duplate Canada Ltd., Oshawa, Ont.
Eric G. Pittman, Lever Bros. Ltd., Toronto, Ont.
George Albert John Rogers, Tip Top Tailors, Toronto, Ont.
James Russell Wilson, Rexall Drug Co., Toronto, Ont.

Windsor Chapter

Wilson Abraham, Board of Education, Windsor, Ont.
James William Almond, British American Brewing Co., Windsor, Ont.

Calgary Chapter

Esther M. Hillenberg, Dept. of Municipal Affairs, Calgary, Alta.
Wilfred Russell Hanson, H. J. Heinz Co. of Canada Ltd., Calgary, Alta.
John Alexander Nimmo, Riverside Iron Works Ltd., Calgary, Alta.

Lethbridge Chapter

Kenneth Hayashi, Broder Canning Co., Lethbridge, Alta.
Kenneth E. Barnett, Lethbridge Herald Co. Ltd., Lethbridge, Alta.
Fred George Holberton, Income Tax Office, Lethbridge, Alta.
Robert Murray Leys, Lethbridge Collieries Ltd., Lethbridge, Alta.

Non-Resident

George A. Tomlinson, Public Accountant, Kingston, Jamaica.

Chapter Notes

FORT WILLIAM - PORT ARTHUR CHAPTER

On October 27th, 1947 a dinner meeting of the Fort William - Port Arthur Chapter was held at the Mariaggi Hotel.

After dinner, Mr. D. R. Harrison led off the discussion on Ontario Legislation by quoting the Vacations with Pay Act and stating its regulations.

During the discussion which followed, it was decided that the Chairman should recommend to the Department of Labor that larger denominations of Unemployment Insurance stamps be printed for large concerns with many books to fill. Representatives from the Timber Companies who were present told about the difficulties encountered in stamping books for transient labor who did not want to wait for their stamps.

Mr. E. W. Sheley, of the Geo. S. May Co., Industrial Engineers, was then introduced and spoke briefly upon the value of concerns like the May Co. to overworked executives.

The meeting was then addressed by Mr. Geo. Wilson, who spoke about the system of keeping payrolls and cheques by the "one-writing" process in connection with the Ditto machine. His remarks were supplemented by Mr. H. N. Bickmore.

At the end of the meeting, Mr. W. J. Strachan, on behalf of the Chapter members, thanked Messrs. Harrison, Sheley, Wilson and Bickmore for suggesting useful shortcuts in accounting.

HAMILTON CHAPTER

A splendid attendance featured the Aleck Howey Appreciation Night at the Hamilton Chapter on October 16th. Harold Bricker, C.G.A., R.I.A., Chairman, presided. Amongst the distinguished guests present were H. M. Hetherington, R.I.A., past Dominion President; R. S. M. Ausman, R.I.A., past Dominion President; and L. J. Brooks, R.I.A., Ontario President.

Mr. A. G. Howey, R.I.A., has resigned from the position of Secretary-Treasurer of the Mercury Mills, to take a similar position with the Atlas

Steels Ltd., at Welland. Walter Furneaux, R.I.A., referred to Mr. Howey's long and valuable service to the Ontario Society and on behalf of the local Chapter presented him with a travelling bag.

The Chairman announced the intention of the Executive to hold a Past Executive Night some time before the end of the season. They plan, on that occasion, to secure the attendance of all available past Chairmen and past Executive members.

The speaker of the evening was Mr. Harold P. Wright, C.P.A., R.I.A., President of Wright, Erickson, Lee & Company. Mr. Wright, who has recently returned from a trade mission to Britain, gave a witty and interesting talk on Post-war England and France. The speaker stated that, a person returning to his native England, as he did, after an absence of thirty-five years, would find the picture rather drab. Politics are pink, markets are black, and the skies are often a dull grey. England has become a land of vacant spaces. But the English with their natural love of neatness have cleared the rubble from the bombed areas. Nevertheless, the ruins stand like monuments to a tragic memory. It is true the British do look tired, but it is not the weariness of despair. It is rather the grim determination of a people who have already done a hard day's work.

Mr. Wright stated that in conversation with people at various places, he was thrilled to hear them declare that they cherished kindly memories of the visits of Canadian soldiers to their homes.

The speaker reminded his audience that, history reveals the fact that often sane and level-headed nations will try a drastic remedy for a desperate situation. It is unfortunate, however, that the British decided to plunge into such a drastic social experiment during the greatest economic crisis of their history. What started out as a rosy dream has developed into a nightmare. It is tragic that a political party so woefully lacking in cabinet material is prevented by its ideology from profiting by experience. The much-needed business recovery is seriously hampered by a mass of frustrating regulations.

KENT COUNTY CHAPTER

The second Fall meeting of Kent County Chapter, Society of Industrial and Cost Accountants of Ontario was held as a dinner meeting on Thursday, October 23rd at Wm. Pitt Hotel, Chatham, 33 members and guests attended. Mr. W. I. Hetherington, of Toronto, partner in firm of accountants, Robertson, Robinson, McCannell and Dick was the speaker for the evening and gave a very enlightening talk on "Analysis of a Balance Sheet" giving practical illustrations and answers to his points and thoughts on same. From the interested questions that followed the conclusion of his speech you know it was of benefit to all present. The chairman, Alan Cousins welcomed all present and spoke of the good attendance at our meeting. It was announced that the next meeting would take place in Wallaceburg. Meeting concluded at 9 p.m.

KINGSTON CHAPTER

Members of Kingston Chapter of the Society of Industrial and Cost Accountants of Ontario, their wives and friends were guests of the Aluminum Company of Canada, Limited, at a meeting on October 26th, at

the local plant. Guest speaker was Richard Decarrie, public relations officer with the company's head office, Montreal.

Mr. Decarrie traced the history of the industry in Canada and showed movies of the Shipshaw development, newest feature of the industry in this country. Alex Taylor introduced the speaker and he was thanked by Bruce W. Matthews. Chairman for the occasion was W. G. Leonard.

Over 90 people were present. An executive dinner meeting was held at the LaSalle hotel prior to the meeting at the Aluminum Plant. After the movies, guests were conducted on a tour of the plant by specially-chosen guides.

MONTREAL CHAPTER

The annual dinner of our institute, for so many years an evening of good fellowship and entertainment, could not be sponsored this year in our fair city due to the shortage of hotel accommodation. In its place a dinner meeting was held on October 10th, 1947, when we were pleased to have as guest speaker, Professor George H. T. Kimble, Chairman, Department of Geography, McGill University, who addressed us on "The Lands of Promise."

As it was our first meeting of the new season, we tried to follow the pattern of our usual opening dinners inasmuch as our speaker's topic was not Cost or Management but our old school subject, Geography. It was surprising to hear the professor say that our neighbour to the south, South America, offers as much and perhaps more than the country in which we live and the United States. His speech was a direct challenge to all our members to strive as cost accountants and leaders in business to develop our natural resources and industry to the point where Canada will be the land of promise and a leader in world affairs.

Mr. F. W. Naylor introduced the speaker and Percy Wright expressed the thanks of all present for a most interesting talk. During the evening Mr. Romeo Ledoux, having qualified for the degree of L.C.M.I. by passing the required examinations, was presented with his certificate. It was announced by our first vice-president, Hugh Bacon, that our immediate past president, Norman Verity, had recently been appointed general manager of the St. Lawrence Flour Mills, and Norman received the good wishes of all in his usual unruffled manner.

Don Patton was given the floor and disclosed that a dance had been arranged to take place on November 14th, at "The Maples", Pointe Claire, to which all members and their friends would be welcome. For some time past we have felt a function such as this would do much to promote interest in the Institute and also would give our wives and lady friends an opportunity to become acquainted with our members. A good time is being anticipated and if the weatherman realizes that fall is really here and saves the heat for next summer, we think the members will welcome the opportunity of an evening's fun.

Being a dominion-wide organization as we are, we extend to all members of other provincial bodies a sincere invitation to meet with them should they ever be so fortunate as to be in Montreal. If you will call Randall Herron, at MA. 8321, he will be very pleased to introduce you to some of our members and perhaps your stay in town will be just a little more pleasant.

CHAPTER NOTES

NIAGARA CHAPTER

The Niagara Chapter held a very successful dinner meeting on Wednesday, October 15th, 1947, in the Leonard Hotel, St. Catharines.

In the absence of Chairman A. Chesher, Vice-Chairman D. Jones presided and introduced the guest speaker of the evening, Mr. W. C. Wood, President of the W. C. Wood Manufacturing Co., of Guelph.

Mr. Wood gave an inspiring lecture on the subject: "Industrial Relations and Their Effect on Wages and Prices." The speaker stressed the fact that members and guests should give serious thought to points of his subject, and capably presented the suggestion that wages should remain fairly static and that prices decline as output per man hour increased, and that, by this method, persons with fixed incomes, such as pensions, etc., will have, at all times, purchasing power equal to that of other classes. Mr. Charles Little tendered thanks of the Chapter.

OTTAWA CHAPTER

The regular monthly meeting of the Ottawa Chapter of The Society of Industrial and Cost Accountants of Ontario was held at the Bytown Inn, O'Connor Street, on Thursday evening, October 23rd.

After dinner, Mr. Dave Hutton, President of the Chapter, introduced the speaker of the evening, Mr. T. Eldon Veitch.

Mr. Veitch, who served from 1939 to 1946 in charge of all ordnance to hospitals overseas, is also a life member of the British Institute of Embalmers. His topic of "Funeral Costing" provided the members with very interesting data on a subject which is not generally well known. His address was enlightened by the reading of a number of epitaphs found in old graveyards, from which Mr. Veitch has made quite a collection.

Following the talk, an open discussion period was held, which proved so interesting that it was necessary for the Chairman to call time.

At the conclusion of the meeting Mr. C. B. Watt thanked the speaker for his interesting talk and expressed the appreciation of the members of the Chapter.

TORONTO CHAPTER

There was a large attendance at the opening fall meeting of this chapter held on October 9 under the chairmanship of Mr. M. C. Coutts. Mr. J. N. Allan gave a short report on the progress of the Dominion Society during the past year and of the prospects in the various provinces for the future.

Mr. R. S. M. Ausman, Dominion past president, introduced the guest speaker, Mr. M. N. Vuchnich, President and General Manager of the Lincoln Electric Co. of Canada, who spoke on "The Lincoln Incentive System." This system which has in the parent plant in Cleveland paid exceptionally high wages, is very interesting to Industrial Accountants. A very lengthy question period followed the talk and the enthusiastic thanks of the audience were expressed by Mr. C. J. Dutton.

VANCOUVER CHAPTER

Dr. G. M. Shrum, O.B.E., Director of the University of British Columbia, Extension Department and head of the Department of Physics, was the guest speaker at our October meeting and chose as his subject "Informal Education."

Dr. Shrum stressed the fact that if we wished to prove to the world that democracy was a really workable form of government, it was up to us to first of all make it work in all respects. This he contended could only be brought about by extended education particularly in the adult field in which the emphasis could more readily be placed on human relationships and true education which is tolerance, charity, compassion, and reverence. When the people have learned these and can get along with themselves and neighbours, Dr. Shrum pointed out, they will have no need to fear other nations.

Dr. Shrum went on to describe the various activities of the Extension Department.

The speaker was introduced by Jim Taylor whom we were very glad to see back again after an extended absence.

Fred Coburn gave a short outline of the University Lecture Courses being inaugurated this season, after which Nick Abramsen, our Provincial President for 1947-48, presented Fred with a souvenir gavel in recognition of his services as President for the preceding year.

New members were welcomed to the Society by the Chairman and the next meeting was announced for Thursday, November 13th.

VICTORIA CHAPTER

Victoria B.C. Chapter held their September meeting on September 12th, 1947 at Prince Robert House, at which time they were privileged to meet Mr. John Tupper, Dominion Society President, and Mr. Nelson Allan, Secretary Manager. Mr. Clifford Davis, Provincial Secretary-Treasurer, from Vancouver, was also a welcome guest.

A representative gathering of members and guests were on hand to hear Mr. Tupper's interesting and instructive address, followed by a live account of Society activities and aims by Mr. Allan. Mr. Davis, on behalf of Vancouver Society, extended a warm welcome to Victoria members to attend meetings in the mainland city and referred to recent success in having the Society's Courses of Study sponsored by the University of B.C.

Our new Chairman, Geo. Marshall, presided and called on P. Frampton, Victoria Chapter member to express thanks to all the speakers.

WINDSOR CHAPTER

On Thursday, October 23, 1947, a general meeting of the Windsor Chapter was held at the Norton Palmer Hotel. The chairman, Gordon R. James, who presided, expressed his pleasure at the fine attendance which included 34 senior members, 10 students and 14 guests. Mr. James announced the names of the students who concluded their examinations successfully and congratulated them.

The speaker of the evening was Mr. R. A. Hicks, C.A., who was introduced to the meeting by past chairman, J. A. Copland. Mr. Hicks is Comptroller at the Moore Business Forms Ltd., of Toronto, and chose to speak upon "The Use and Application of Business Forms:" He provided everyone present with a folder containing each of the forms covered in his address and, after his explanation of each individual form, he invited questions. This was a unique divergence from the usual practice of holding a question period after the address.

Current Literature Digest

(By HAROLD BRICKER, C.G.A., R.I.A.)

We have received a copy of "National Accounts, Income and Expenditure, 1938-1946". This is the most comprehensive piece of statistical information, covering Canada as a whole, in the form in which conclusions may be formed, that has been issued by the Dominion Bureau of Statistics in some time. (50 cents).

There are a number of new table set-ups which include for example, the presentation of Personal Income so as to indicate the main income components. This is supplemented by an analysis of the disposition of personal income. Personal expenditure has been summarized by main commodity and service groups. There are statistical tables on gross national product, gross national expenditure, investment income and national corporation profits. There is a distribution of industrial salaries and wages and net income of agricultural and other unincorporated business. There is also a Provincial distribution.

While the information must be considered statistical and interpreted in that light, the examination of all the series for consistency of concept and method, particularly with a view to the elimination of the rather large residual error of estimate during some of the war years, is still continuing. Several sources of information hitherto not available are being examined. Consequently, the figures presented in this publication cannot be considered or regarded as final.

Subject to interpretation, with suitable reservations, this interesting statistical publication will be available in future. While the reliability will improve with further research and experience, the information now offered is of worthwhile interest and includes some of the following in table form.

The net national income at factor cost or, more briefly, national income, measured by the aggregate earnings of Canadian residents from current production of goods and services. This is the sum of labor income, investment income including corporation profits, and the net income of unincorporated business.

The gross national product, at market prices, includes the value of all goods and services produced by the labor, capital, and enterprise of Canadian residents, measured through a consolidated national accounting of all the costs involved in their production. These costs include factor costs and in addition indirect taxes less subsidies and depreciation and similar business charges.

The gross national expenditure includes the market value of all goods and services measured in the sales of those goods and services, including changes in inventories.

The difference between the totals measured in gross national product and gross national expenditure is set out under the heading of "Residual error of estimate."

Personal income includes the current receipts of income of persons, whether in cash or kind. This includes individuals, private non-commercial institutions (charities, hospitals, etc.), and private pension funds. Personal income differs from national income in that it excludes all current earnings not paid out to persons, such as, undistributed profits. It includes receipts which have not been earned in the course of current production, that is transfer payments, such as war service gratuities or family allowances.

Disposable personal income is that income after direct taxes.

Personal savings comprises the excess of disposable income over personal expenditure on consumer goods and services. Although the personal saving thus obtained appears reasonable, it should be accepted with the consideration suggested in regard to the data available at this time and until additional data is developed to corroborate these statistics. The savings figure includes the net change in farm inventories as well as the estimated refundable portion of income and excess profits taxes.

CANADIAN ECONOMY INFORMATION

If one uses the conclusions formed from the statistical figures provided, with reservations and keeping in mind the human factors of the Canadian nationals in the face of world conditions, the trends are not at all unreasonable.

If a person is interested in learning the income contribution of any particular phase of Canadian enterprise, he may determine, subject to the reservations noted, that, of the total net income of Canadians, in the years shown, the following enterprises contributed the following:

	1939	1943	1946
Agriculture	46.5 %	60.5%	58.5%
Retail trade	13.75%	11.5%	12.3%
Community service	6.4 %	5.1%	5.3%
Construction	5.2 %	2.7%	4.8%
Manufacturing	6.5 %	4.3%	4.2%

While these percentages are not so to speak accurate, there is a story in the proportions and the trends. These are in the pre-war, the war and the post-war periods. The story of the progress of each enterprise during this period is necessary to appreciate the indicated trend in its contribution to our national net income. This is the national viewpoint. It might be assumed in making comparisons, "What was lost on the oranges was recovered on the bananas."

Another interesting comparison is revealed in the disbursement of the taxes collected by the governments. For every dollar of direct taxes collected the government returned to individuals, in the years noted, the following, for the service indicated:

	1939	1943	1946
In total	$2.32	$ .29	$1.42
For relief	.82	.01	.01
For family allowance	nil	nil	.34
For old age pensions	.33	.07	.087
For war pensions	.34	.07	.086
For unemployment insurance	nil	.001	.062

This information suggests a trend in government provision for social security of individual Canadians.

There is also an indication of the relative progress in the various provinces in the comparison of the salaries, wages and supplementary labour income in various years, in the different provinces.

	1939	1943	1946
Prince Edward Island	100%	138%	188%
Nova Scotia	100	203	229
New Brunswick	100	172	203
Quebec	100	197	203
Ontario	100	194	200
Manitoba	100	146	194
Saskatchewan	100	144	189
Alberta	100	156	210
British Columbia	100	213	218

The increased rates of salaries and wages is the greatest increase factor. However, there are other factors of interest in increased production in various types of enterprise. This projection is through the war period and covers war activity and conversion to peace time production well up to the period of control and subsidy discontinuance.

THE DEPRESSION; HOW SOON MAY IT BE EXPECTED?

The depression after the first world war began to take form about the time that the purchasing power was dissipated in the high cost of living at that time and due to increased prices which faded the demand and which caused a supply reduction, lower production, unemployment and the depression.

The period after this latest war lends itself to the same trend, but due to the government's policy of forced war time savings, supplemented by various subsidies in price control and social assistance, e.g. family allowances, the purchasing power will not be dissipated nearly so quickly. The social payments and gradual savings release as indicated in the coming due of War Savings Certificates at regular and constant periods, to which might be coupled the education of a large section of the public against accepting the higher prices, will defer a drastic Canadian depression and might quite easily carry us through this present world adjustment to the normal period cost of living.

This has been more than a digest of the publication noted above and it is hoped that the few comments offered here will not be unduly criticized as it is offered as an incentive to a fuller appreciation of our Canadian economy.

WHAT ARE BRITAIN'S ECONOMIC PROSPECTS?

L. C. Morrow, editor, expresses his conclusions in the October edition of Factory Management and Maintenance, in the following:

1 .British management is trying hard to increase production and co-operate with the government.

2. It faces shortages of fuel, materials and manpower; also an uncertain government program.

3. Industry needs more standardization and simplification.

4. It needs to do more training, particularly of supervisors. It needs closer co-operation between supervisors and workers.

5. It needs equipment that will give higher production. But even more, it needs to get more out of the equipment now being used. This it can do by intensive methods engineering.

6. Britain should concentrate on exporting skill, not mass production. One example: The Rolls-Royce, not the mass production car.

7. Workers need better leadership, by both unions and management.

8. They need more incentive to work (reduced taxation, more freedom in buying).

9. The people of England, as represented by the working and middle classes, are rather low in spirit. They need better information as to national objectives. Just slogans like "Work or Want", won't get results. They think something should be done. But they don't know what, or who should do it. Some say England herself. Some say America. They are in the "queueing" age and don't know how to get out of it.

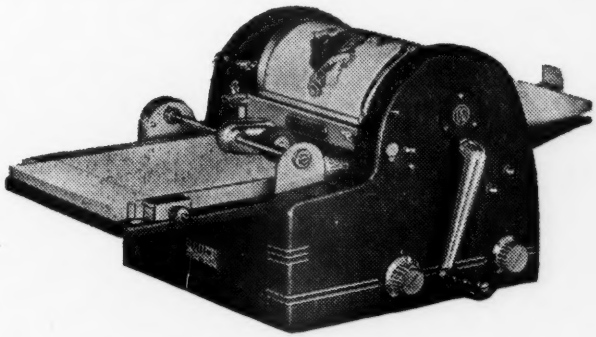
10. The economic prospect for Britain is not bright, but it is hopeful. The potential for recovery is there. Required: (1) Outside help—finance, equipment, know-how. (2) Co-operation on her part—much more extensive use of her industrial-management leadership; much less government in business.

Everybody is thinking about Britain. What is happening to her economy? What is happening to her people? What happens will affect Canadian industry eventually.

Personals

Our heartiest congratulations are extended to Mr. A. G. Howey, R.I.A., on his appointment with Atlas Steels Ltd., Welland, Ontario. Mr. Howey is a Past President of The Society of Industrial and Cost Accountants of Ontario and has been a member of the Educational Committee from its inception.

Mr. Howey's many friends will wish him every success in his new position.



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Reduction of Manufacturing Costs by Practical Application of Standard Costs

(By S. B. WICKES, C.A., Assistant Controller, Northern Electric Co. Ltd.)

When considering the use of standard costs it might be well to start with the end objective or the ultimate results which we expect to obtain and to ask ourselves why we use standard costs rather than job costs, or so-called actual costs. In talking to a group of cost accountants, who have so much practical experience on this subject, it is not necessary to outline what standard costs are. The results which we may expect to obtain, however, might be mentioned in order to focus our attention on them so that we may think objectively.

The prime objective of a standard cost system is to control and improve our production costs by indicating as a variation the difference between the standard cost, which is what we should manufacture an item for, and the actual cost which has been incurred in producing it. It is this variation and the practical control of it that I wish particularly to deal with to-night. It is not enough just to ascertain the amount of the variance, it is essential to allocate it to the location where it occurred, find the reason for it and indicate under whose control it was produced. After this has been done we can correct it and eliminate the loss.

The secondary objective is to reduce the detail work necessary in the Cost Accounting Dept. relating to all costing details: deliveries to Finished Stock Account, materials, and costing of inventory. By eliminating the necessity of computing various so-called actual costs which vary each time an article is manufactured we can attain this result.

Let us then consider our prime objective first, that is the control of production costs, and, by reflecting the manufacturing variations from standard find the means to eliminate them. By doing this we shall ensure that the sale of our products will give us a proper margin of profit instead of seeing it eaten away by manufacturing inefficiencies.

Perhaps if I use as an illustration the types of product manufactured by the Telephone Division of our Company it will serve to bring out some of the practical problems facing the cost accountant who is charged with operating a standard cost system. In this Division there are manufactured upwards of 60,000 different piece parts from some 4,000 different types and sizes of raw materials. After the piece parts are made they are assembled into many thousands of sub-assemblies and the sub-assemblies, together with additional piece parts, assembled into complete apparatus and equipment.

On the face of it this may appear to pose a difficult problem to the cost accountant when operating under a standard cost system; yet, when you analyze the various ways of manufacturing these many thousands of parts it will be found that they can be grouped into ninety different categories. Each category has similar manufacturing operations performed thereon, consequently it is only necessary to record costs under ninety different orders. The number of these orders is gradually being reduced despite the fact that we manufacture 17,000 different saleable products. Of

An address before the Montreal Chapter.

this quantity 8,500 are manufactured repeatedly, the other 8,500 are not manufactured so frequently and generally are produced in small quantities. The grouping of items into ninety different orders is based upon the theory, which has worked out in practice, that products which require similar manufacturing operations can be manufactured on the same order and the resulting manufacturing variance, when allocated over all the products on that order, will result in an accurate cost.

This grouping of many items into standard orders is emphasized because it has been ascertained by experience that the greater the number of orders the more expensive it is to operate a cost system and the greater is the possibility of error in allocating charges to the individual orders. If errors are made in allocating charges, particularly labour charges, then the accuracy of the variance suffers accordingly. Although a telephone dial and a switch key may look entirely different, have different uses, vary in cost, they have the same or similar manufacturing operations. It therefore follows, that if keys and dials are made on the same order, and the variance from actual cost compared to standard cost for both is, say, 10%, we can safely assume that had they been made on individual orders the cost of each of them would have been 10% over standard.

With the idea now in our minds that we have grouped many items on one standard order, let us follow through one standard order and see what variance from standard we can bring out. The aggregate production from this order, evaluated at standard cost, will represent the sum which the production engineers estimate should be spent in order to produce all the items manufactured on that order for the accounting period under review. In practice we know that actual results will vary from standard and it is necessary to find out what they are. First let us consider material usage. Has the shop used greater quantities of material than were called for by the bills of material prepared by the production engineers? On the order which we are following this is controlled very simply by insisting that standard requisitions be used for the specific requirements set by the engineers for the parts to be manufactured. Any additional quantities which are actually required to complete the quantity ordered, due to spoilage, or for any other reason, must be ordered on a separate requisition. The total value thereof is computed at the end of the accounting period and charged directly to Material Usage Variation Account and not to Work-in-process. In this connection it should be observed that excessive material usage variations will be reflected as labour variations as well because labour was used in producing the spoiled material.

Labour variation, representing the difference between the actual and standard labor for the month, is the next item to be considered. For the purpose of this discussion when I refer to "labour" I am including the standard overhead applicable thereto. This is by far the most important element of cost to control and I propose to deal almost exclusively with this item. The more operations you perform in your plant the more important this element becomes. The control of it is the most difficult of all the cost elements, consequently it requires the most careful analysis and control.

Let us then consider the problems which arise in arriving at this labour variance. What are the elements which make it up? Where do they

occur? Who is responsible for creating them? Are they really variances? Were the standards themselves incorrectly set? Let us take a look at these items and see what we can do to bring them to light and what steps can be taken to eliminate them.

First, let us remove the easy element—the labour rate variance, over which cost accountants have no control. It must be removed separately, however, in order that other labour variance inefficiency can be shown separately. It is not practical to change standard costs for each increase or decrease in the cost per hour of labour and we must, therefore, remove as a specific sum the variance caused by the labour rate variation. This segregation should be made at the end of each accounting period, preferably weekly, or at the end of each month at the very least. To give effect to this elimination it is necessary, when preparing the standard costs, to compute the average labour rate which was originally included in the standard cost (including due allowance for piece work rates). Assuming that this was done, it is only necessary at the end of each accounting period to calculate the hours and dollars of actual labour paid for, arrive at the average rate, then compute and charge the difference between the actual and the standard directly to Labour Rate Variation Account. (If we can control our costs by means of hours instead of dollars this step can be avoided, but I will discuss this feature later.)

The next item which we must consider is the amount of variance due to labour inefficiency or other causes. Right at this point we have the main reason for the operation of a standard cost system. Under existing conditions, with labour rates continuously increasing, it is absolutely vital for cost accountants to bring up promptly the labour losses compared to standard.

Let us consider the problems involved in coming to grips with this variance. There is not much use pointing out that there is a fire unless you can tell he fireman where it is, or better still, what caused it. As for the labour variance, I again repeat, let us try to pin this variance down to the reason for its existence, where it arose and who is responsible for it. After this has been done let us convince those responsible for the operation of the plant that our answer is correct. Let us secure their co-operation and get them started on a course which will eliminate the variance and turn a loss into a profit.

In order to see what must be done to accomplish this let us again look at one standard order. We have charged up the actual labour and removed the labour rate variance. We have the material charged in at standard cost and we have eliminated therefrom excess usage compared to standard. The result at this point represents the total charges for the period; material at standard cost plus labour at standard cost equals the total standard cost for the month, which has been charged to Work-in-process. Now, we add to this amount the opening inventory, which we obtained from our physical inventory at the first of the year, and deduct therefrom the first month's production at standard cost. This operation is simple and needs no explaining. We price each item produced at our standard cost and credit the total to the order.

Now right at this point we have the $64.00 question. We know what our total of labour and material is, plus our opening balance, we have deducted the deliveries for the month, and we have the balance of work-in-process at standard cost against that order—if we had no variance. This balance is the $64.00 question. How are we going to separate the amount of variance due to expending more labour or taking more time than the standard allowed for from what really is the value of the physical inventory? And most important—how much is the variance? Well, you may say that this is tough, that it cannot be separated short of closing down the shop each week, or each month, taking a physical inventory of each part at each stage in process, adding it all up at standard cost. This would take until next Christmas if we are considering September results!

Perhaps, if you want to give up easily, or wish to pare the variance down to a thin dime, you are correct. Actually, however, to get hold of this variance within practical dimensions is not as difficult as it looks. Let's stop here for a moment and see what we have. We took the physical inventory on this order at standard cost on December 31st, so we know right off the bat we had an inventory of, say, $5,000; we know we had material charges of $10,000 in January; we know we had labour charges at standard cost of $10,000 (remember we eliminated the labour rate variance); we even know the departments where the labour was spent for comparison with previous periods; this leaves us with $25,000 to account for. We produced at standard cost $18,000 worth of products. Our inventory at the end of the month, combined with our variance (at present unknown), is $7,000—that is an increase of $2,000 over the previous month. Now, suppose we assume for a moment that this $2,000 is **all** due to inventory increase and there is no variance. This is a pretty healthy increase, $2,000 on $5,000 inventory at the start of the month, or 40%. So we investigate—pick up the telephone, question the production department, talk to the foreman, ask him how the inventory looks this month compared to the previous month. These people know their job and can give you their estimate, let's take their estimate for the moment. The foreman thinks the inventory is up a little over last month, say around 10%, so we take $5,500 this month for his inventory and the variance, therefore, is $1,500 ($7,000 - $5,500). We start February off with an inventory of $5,500 and carry on for February, and repeat in March and April in a similar manner. BUT, we find that the inventory is continually climbing and yet our output does not seem to be increasing. This means that our variance is wrong, or the inventory is too high. In either case we should find out why.

At this point we can check visually with the Production Dept. and with the foreman and see why there is so much inventory piling up without an equivalent increase in output. Maybe there is a good reason, say shortage of some materials, but if such is not the case an inspection would indicate that his estimates are off and further labour variance adjustment is required. Experience, and the operation of a simple chart, or a work sheet showing the labour each month listed for each department which incurred it, the material charged each month and the output and labor variation credited therefrom on a separate line; finally, the inventory balance on the last line, in columnar form, month by month, or chart form, whichever you like,

will readily help you to spot errors in estimating the monthly inventory by examining the trend of each item.

Now, at this point, you are wondering how we can check up and estimate an inventory each month, when we have been talking about a great many items on a standard order with the operations scattered over a large shop. Well, in our Company this was the case until we changed our order grouping quite recently. Yet, with 1,000,000 sq. ft. of floor space and orders grouped by products we were able to estimate the monthly inventory and variance, as I have outlined, and come within a very close percentage of our actual variance when we checked against our physical inventory. However, if we want to correct variations we must show not only the variation on an order as X%, we must show where it is and who was responsible. In order to assist towards this end our Company is working towards the point where one order covers one group of products in one physical area, under one foreman who is responsible for the production and the variance in his shop. In this area are the necessary machines and equipment to complete the product from raw material to finished goods.

At this point you may say to yourself: "My Company is different. We cannot put automatic screw machines, punch presses, drill presses, welders and all necessary equipment in one area to take care of just one group of products; besides our plating room is on the top floor and most of our parts are plated. That heavy press and shear cannot be moved from the ground floor and our paint shop was just remodelled—it cost us $15,000—and it is on the east side of the second floor and all our products are painted. I guess standard costs are swell for the other fellow but our Company is different, we could not operate on that basis."

If I thought that this were true I would not prepare this paper. The grouping of items on a standard order is not necessarily the only answer for all companies, in our case it happens to fit in and we like to produce the variance against a group of products. Perhaps in your Company the grouping should be a group of departments, or sections, which happen to fall under a particular foreman or gang boss. They don't have to be similar machines. Perhaps one gang boss may supervise plating, machine shop, painting, or a group of machines—alright, start arranging your standard production orders which you are going to control and bring out your variance in accordance with your natural flow of materials or methods of manufacture. Just remember the principle that the more orders you have the more it costs to operate your system and the more difficult it is to allocate your charges, particularly labour. After all, if your production engineer estimates a standard of ten hours per thousand for machining, five hours per thousand for painting and six hours per thousand for press work, and you wish to keep this all under one control because one supervisor looks after them, then group them that way. Every time that group completes its operations on one thousand parts it gets credit for twenty-one standard hours, and so on with the rest of the products produced under that order. At the end of the month you know the actual hours you have given credit for and the amount of completed work delivered. We know how many hours have been paid for and when we estimate the inventory in hours, we have the variance.

At this point you will note I have diverted the discussion from actual dollars versus standard dollars to actual hours versus standard hours. This is an introduction to the second method, and I believe the better method where it is at all practical to control your variation by hours instead of by dollars. When preparing your standard costs and shop layouts the standard hours should be shown as well as the dollars and on the cost records the sub-totals of each carried forward for each cost centre or order number. This will enable you to credit each cost centre or order with the standard hours for the operations on the products which they have performed.

If you follow this method you will accomplish two things at once. You will have automatically eliminated the first step of computing and recording the amount of wage rate increase (actual compared to standard) and you will have helped to answer the $64.00 question . . . How much of the month-end balance is inventory and how much is labour inefficiency variance? Your foremen are more likely to estimate accurately the number of hours spent on undelivered work-in-process than they are the dollar value (which includes material and overhead).

If you are controlling by means of hours you have a starting point at the beginning of the year from the number of standard hours included in the physical inventory, just as you had in dollars. By adding thereto the actual hours spent in that cost centre, or on that order, and taking the standard hours delivered in that cost centre, or on that order you are left with the balance of hours to divide between your labour inefficiency variance and the inventory in hours. Keeping the same statistics month by month in tabular or chart form, as you would under the dollar method, you can quickly follow up and see if part of your variance is hidden in the inventory.

Those who tend to be discouraged by the apparent amount of work and difficulties in computing variations, should remember that by means of a standard cost system you have a check each year, on your results, when you take your physical inventory. As you gain experience so you will improve. To those who are contemplating the installation of a standard cost system, or a revision of an existing one, it is strongly recommended that control by hours be considered. Futher, it is recommended that the hours and dollars of productive labour be carried forward to the final product for each manufactured part making up the finished item where it is practical to do so. If this can be accomplished you can look at your finished product cost card and ascertain the total value and the total hours of productive labour involved in all the piece parts required to complete that product, also the final assembly labour and the grand total thereof. This will prove helpful in preparing future cost revisions and in many other ways.

MATERIAL AND OVERHEAD VARIATION

No discussion of a standard cost system would be complete without some mention of purchased material price variation compared to standard and the overhead variation between actual and standard. These two variances are probably the most frequently used, even though a complete standard cost system is not in use. I propose to deal very briefly with them for that reason.

Regarding the establishment of standards for raw materials and purchased parts, these can be made extremely useful in at least two ways.

First, they reduce the number of cost compilations and secondly, act as a control over purchasing. If purchases were studied it would generally be found that groupings of individual items could be made under a relatively few classifications. For example, all steel strip could come under one classification, steel rod under another; sheet brass and brass rod, copper products, cottons, rubber, silk and miscellaneous. By sub-dividing raw material accounts under appropriate headings it enables the cost acountant to keep control over the Inventory Account by items. By adjusting the purchase price variance at the time of purchase the difference between the standard cost and the actual cost can be expressed against each classification which the cost accountant has provided for. In cases where the variance is charted month by month and any classification shows extreme abnormalities, verification can be made with the Purchasing Dept. to see if purchasing in greater quantities would reduce the amount of the variance.

You will observe that I am recommending that purchase price variation should be charged to Variance Account at the time of purchase. This results in a minimum of calculations as compared to the method of disposing of variations when the material is drawn from stock and delivered to work-in-process. In addition, it saves the work of calculating average costs—which is generally necessary when materials are taken into stock at different prices.

Regarding the variance between actual and standard overhead, the detailed distribution of expense and calculation of departmental overhead rates, this is a subject which could form the basis of an entire evening's discussion and I do not propose to deal with it here.

I would, however, like you to give some consideration for a moment to the current trend of expressing and applying overhead in rates per hour. also the growing practice of considering such items as expense labour, which increases almost directly with productive labour, as either productive labour instead of expense or as in increment thereto. I am referring here to inspection labour, portering accruals for pension plans, etc., setting up, etc. In cases where group incentive plans are in effect, or under consideration, there are some advantages to including these elements under this category. If this is not practical there are some good arguments for segregating from other overhead, labour and expense, which fluctuate directly with productive labour, preparing standards therefrom or applying a percentage as a separate overhead rate. This will enable the cost accountant to compare his estimate with the actual expense incurred under this category and express the difference as a separate variance.

In many cases I think you will find that quite a large proportion of overhead expense comes under this category, the remainder being fixed or semi-fixed. If such is the case the use of a separate percentage to cover the variables can provide an excellent guide for the preparation of costs for use by management in deciding whether to make or buy certain parts.

PSYCHOLOGICAL APPROACH

So far nothing has been mentioned with respect to the elimination or reduction of the amount of labour variance. You have pointed out how much it is, month by month, or preferably week by week, you have placed

it on the heads of the foremen or gang bosses who are in charge of the areas or departments or cost centres, in which the variance occurred, yet this is not sufficient. It must be eliminated, if we are to successfully fulfill our obligations to society and manufacture efficiently. The cost accountant cannot eliminate the variance he must secure the co-operation of the production department who can eliminate it.

If this is our first attempt at operating a standard cost system, let us explain clearly to the production department and show them just what we are endeavouring to accomplish together when we bring up our variance each week or each month. Let us not be critical and take the attitude that we are always right and the variance is the fault of the foreman—perhaps the estimate of the inventory has been wrong, perhaps the standard time allowed for the manufacture of some of the items produced that month were improperly set up. Let's give the foreman, or the production man, a chance to review and discuss the figures with us each month and gain his confidence—give him a chance to bring up his points . . . the fact that every time he gets that bracket to manufacture with an allowance of fifteen hours per thousand it takes him twenty or twenty-five hours, and so on. These are the things we want to bring out; from then we can have the production engineer study ways and means of reducing the time on these items to what it should be. If corrections have to be made in the standard estimates we can change our standard costs—raise our selling price if necessary—or stop manufacturing a loss item.

In conclusion, may I reiterate, operating or installing a standard cost system is not difficult—it just takes a little patience, a broad outlook on the other fellow's problems, a liberal serving of common sense, and you will save a lot of dollars.

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Cost Accounting and Control in Drug Manufacture*

(By OMER W. COX, A.C.I.S., R.I.A.)

This paper demonstrates the application of certain cost accounting principles to a specific industry. The study is based on an enterprise manufacturing specialty items covered by registered names as well as a line of general pharmaceutical products. The former are high volume items, whereas the latter are not. These products take forms such as elixirs, tablets, capsules, powders, ointments and suppositories. Goods are manufactured to customers' specifications as well as for stock.

* A paper presented to the London, Ontario, and the Chatham, Ontario, Chapters, Society of Industrial and Cost Accountants of Ontario.

THE COST SYSTEM

The job order cost system is used with an application of standards in the areas of labour and overhead. Owing to the large number of products manufactured and the fact that scarcely any are in continuous process, this method meets the needs of the industry in the control of costs and inventories.

In the manufacture of pharmaceutical products there are two distinct phases of the production process. First, the chemical formula is processed and is made available in what is called a "bulk" form. Second, the bulk product is placed in packages or containers, which process is known as packaging or finishing. Naturally, costs are accumulated separately for each stage. There are, however, several cost centres or departments in each phase of manufacture.

A production order is issued for the required quantity separately for each phase of production. The production order constitutes the authority for the factory to manufacture the quantity shown according to the specifications submitted therewith. It provides spaces for recording the materials used, labour (by employee), producion actually obtained, waste or breakage, cost computations, and control signatures. In the bulk phase the production order is called a Manufacturing Order while in the packaging phase it is a Finishing Order.

Inventories of raw materials are carried at average cost. Bulk materials are carried at actual cost for each lot with no averaging. Finished stock is carried at a monthly average cost. Perpetual inventories are maintained with separate controlling accounts for each of these classes of stock.

A small percentage is added to the cost of materials for inventory adjustment and is set up in a reserve account. Against this account is charged the difference between book and physical inventory values.

In applying this cost system, a salient feature is the simplicity and co-ordination of the records, and above all the reduction to an absolute minimum the clerical functions required by factory personnel. Clerical functions are office functions and should be done there.

BULK MANUFACTURE

Raw Ingredients

In the bulk phase the material is called raw ingredients and consists of the various chemicals as provided in the formula. Each formula for the range of batch sizes desired is recorded on a Formula Card which shows

the quantity of each ingredient needed as well as the complete processing methods to be used, and the theoretic yield.

A Manufacturing Order is issued by the Production Planning Department and assigned a formula batch serial number. The date, product name, and standard time appear on the Manufacturing Order at this point. The Manufacturing Order together with the Formula Card are enclosed in an envelope called the Formula Envelope and forwarded to the Dispensing Department. Identification tickets for attaching to the ingredients dispensed and the resultant bulk product are also included.

The Dispensing Department is a stock-room for raw ingredients. The Manufacturing Order constitutes the authority for the Dispensing Department to issue or dispense the required ingredients, using the identification tags just referred to. The Formula Envelope together with the remaining contents is forwarded with the materials to the manufacturing department affected.

Any additional materials required are entered on the Manufacturing Order by the Dispensing Department. Otherwise no records for materials used in the factory are made.

When the job is completed the actual yield or production is entered on the card. The product is tested and approved by the Control Laboratory and the Manufacturing Order is forwarded to the Cost Department together with the Formula Card in the original envelope.

The formula for bulk manufacture is an exact list of quantities to be used, and the quantities so listed must be rigidly adhered to in order to manufacture a product with exactly the right specifications. This is extremely important in the drug industry as you will appreciate. For this reason we know the exact quantities of raw ingredients used in the processing of a batch of a given product.

We could set up a standard allowance for spoilage and waste, but our experience has shown that this is not necessary for material control purposes. The department manager approves each Manufacturing Order when completed, and he can tell at a glance whether any spoilage or waste is excessive and can take immediate disciplinary action. He does not have to wait for variance reports from the office.

The only exception is when some materials are accidentally spilled or wasted. Such an incident is reported in the blank space shown on the Manufacturing Order. If the loss is not excessive then it is costed into the product. If the loss is sufficient to distort the product cost, then it is charged to the overhead of the department. Machine extension and summation give the total cost of raw ingredients used. To this figure is added a percentage allowance for inventory adjustment. The quantities reported over and above the formula requirements are costed and summarized at the end of the each month to provide data for measuring the effectiveness of factory control.

The quantities of materials used are obtained by placing the Manufacturing Order alongside and overlapping the Formula Card so that ingredient numbers match. This is necessary since the materials name does not appear on the Manufacturing Order; only the item number and the lot number are thus indicated. Then the formula quantities are transferred, line for line, onto the Manufacturing Cost Card. Then while the cards are still

matched the quantities are deducted from the proper inventory cards and costed into production without any special report of any kind. At the same time the unit costs are inserted on the Manufacturing Order.

As soon as the Cost Department has costed each Manufacturing Order, the Formula Card is returned to the Production Planning Department who have custody of all formulas. They are entrusted with protection of secrecy of the formulas, and you will note that the Manufacturing Order left in the Cost Department does not show the names of ingredients.

Labour

Time standards are set for each formula. The standards in bulk manufacturing are difficult to set and maintain for the reason that each man may have several jobs in process at one time. In many cases he is alternating his time. As an example, in liquid manufacturing a tank of Product A might be agitating for several hours. During this time the operator is working on Product B. He might still be required to give intermittent attention to a third Product C that is being pumped from one tank to another. Also the number of products in simultaneous processing varies from time to time. To scientifically by time study determine the proper time allowance for a job is difficult as you can realize.

Despite these problems an estimated standard arrived at in the best possible manner is still much more accurate in costing our production than any actual time record kept by the employee. He only guesses at the apportionment of his time. Also, costs would otherwise vary according to the number of jobs in simultaneous production.

The plant is departmentalized and a standard labour rate is set for each by the Cost Department for use in costing the production processed in each department.

When a Manufacturing Order is issued the standard time is shown on the face of the order. This serves as a guide to the production personnel in watching time taken on the formula. The actual time taken is recorded on the back of the Manufacturing Order for control purposes. This is the only record an employee makes of his time, except for the attendance clock card. Each day every employee's direct labour is picked up from the Manufacturing Orders and entered in total on his clock card, together with any indirect labour. The Payroll distribution is made directly from the clock cards.

The actual direct labour for each department is charged to the departmental labour account. The standard labour is computed on the Manufacturing Orders and when summarized and journalized is credited to the departmental labour account. The balance after allowance for labour in process represents the net labour variance.

This variance is analyzed as follows:

Assume the following figures are reported and show the net variance of $10.00 for Department A for the month of September 1947.

(a) 1000 standard hours @ $1.00 Standard Rate	$ 1000.00
(b) 1100 actual hours @ .90 Actual Rate	990.00
Net Variance (Favourable)	$ 10.00

Production Efficiency Variance:	
Difference in time of 100 hours @ Standard Rate of $1.00 (Unfavourable)	$ 100.00
Rate Variance (Cost Department):	
Actual hours of 1100 @ difference in rate of .10c (Favourable)	110.00
Net Variance (Favourable)	$ 10.00

Final Bulk Costing and Entries

The overhead is computed on the basis of direct labour hours using a standard rate for each department. The total and unit cost is computed. The bulk production and cost is entered on perpetual inventory cards keeping each batch entirely separate.

FINISHING

Packaging Materials

A Finishing Order is issued by the Production Planning Department to authorize packaging a product.

When issued it shows the Finishing Order number, date issued, product name, quantity authorized to be finished and the size. The size is the fill size in the case of liquids. As in the example, the label would show 12 ounces whereas the fill is actually 12½ ounces. The latter figure is the significant one for the Cost Department, since it is used in computing the theoretical material usage. The exact specifications for packaging the product are detailed on the Finishing Order, showing the quantity of material required. The quantity of bulk material required and the bulk control lot number are also indicated. In addition the standard labour is shown.

This form is a four-part set and the copies are used as follows:

1. Green copy—Cost Accounting Copy. All accounting and control data are entered on this copy.
2. White copy—Requisition for Packaging Materials. It is forwarded to warehouse and constitutes authority for withdrawing from stock the necessary quantities of material.
3. Blue copy— Finishing Department copy. This copy is used in the Finishing Department for checking specification and quanties of materials.
4. Pink copy— Requisition for Labels. This copy is an order on the Label Room for the required labels, the finishing order number is stamped on each label for product control purposes.

All copies of the Finishing Order are delivered to the Finishing Department who distribute them to the other departments.

On the basis of the white copy the Warehouse Department delivers to the Finishing Department on the day preceding the schedule date the required quantities of each item specified allowing about 5% overage to cover overrun, spoilage or breakage in process. Likewise the Label Room which is a section of the Finishing Department prepares and has available the required labels, using the pink copy.

The green or Cost Accounting copy of the Finishing Order remains in the Finishing Department until the order is completed. It is located at the finishing line most of the time for reference by finishing supervisors to specifications and for entry of production, labour and spoilage and breakage. It is the one and only document required to be entered by the Finishing Department personnel for the office. This point is important.

Material control in packaging is much the same as for raw ingredients. For instance, if 1200 bottles of Product A were completed, obviously we used only 1200 each of bottles, caps, and labels and 100 packers when packed 12 to a case. Then the only factor requiring control is spoilage or breakage on the finishing lines. The spoilage and breakages are recorded on the Finishing Order and reviewed by the Finishing Department Manager each morning, and the necessary corrective action taken.

The Cost Department procedure for processing Finishing Orders, in so far as materials is concerned, is the same as discussed under raw ingredients, except the item name is shown on the Finishing Order.

Bulk Material

When the Finishing Order is issued the approximate quantity of bulk required is shown in the space provided. When bulk material is brought to or piped to the Finishing Department, a representative of the department checks the quantities of materials supplied. For instance, in the case of a liquid being piped down from the floor above he would go up and actually check the number of gallons in the tank. This figure is recorded on the finishing order in the space provided and is also verified against the production quantity of the item at the time the check is made. Any quantity of bulk remaining after the run is completed is returned to stock and checked in. Any spoilage or wastage is entered on the Finishing Order. The quantity returned is also recorded on the Finishing Order. These two figures tell us the total quantity of bulk consumed for that finishing order. The cost department reconciles this usage figure with the perpetual inventory on that bulk lot number. In doing this the theoretical usage of bulk material based on the package content is computed. The total bulk consumed is costed on the finishing order to show the total cost as well as cost per package unit.

Here again any excessive wastage or spoilage is written off to an overhead account. Otherwise all materials consumed are costed into production following the same methods used for raw ingredients and packaging materials.

Labour

Finishing is largely a mechanized process, although there are some products in the low-volume class that are hand packaged. A finishing line is actually a conveyor belt along which are stationed machines and both hand and machine operators. The machines may consist of a filler, a capper, a labeller, and a carton sealer.

The time standards are set for the line as a whole. The standards tell us the number of units per minute and per hour and the number of operators. Costing of finishing time is handled in the same manner as for bulk manufacturing.

The actual labour performed on each finishing order is recorded on the back of the form. The date, operator, time start, time stop, and elapsed

hours are shown. Here again this is the only detailed time record kept by factory personnel. The methods used in accounting for finishing labour are similar to those described for bulk manufacturing labour. The total actual labour hours and number of girls used are transferred to the labour section of Finishing Order where they are compared directly with the standard and the variances are shown.

The finishing order is costed at standard labour hours and rate.

Final Costing and Entries

The overhead is applied at the standard rate. The total cost of the run is computed and the cost per package unit is shown. These figures are posted to the perpetual inventory cards.

FACTORY OVERHEAD

Departmental Budgets

The type of factory cost most difficult to control is overhead. The plant is divided into areas of supervision or departments. Each year in the fall the cost accountant and the factory superintendent sit down together with each factory supervisor and arrive at the expense budget for the following year for each element of expense. The expense and production level of the current year are studied in relation to the production budget of the following year. The budgets are finally approved by the general manager.

Overhead Distribution

Initially each item of overhead expense is charged to a department. Then by progressive distribution the expense of each service department is apportioned over the remaining departments. The department serving the most other departments is shown first followed by the one serving the next highest number and so on. No department receives a portion of the expense of a department listed to the right of it, so the importance of the sequence cannot be over-emphasized. This progressive distribution is continued until all expenses are represented in the production departments.

The distribution bases are as follows:

Basis No.	Basis of Distribution
1.	Number of employees.
2.	Number of production orders.
3.	Number of purchase orders.
4.	Estimate of steam consumed.
5.	Floor space occupied.
6.	Labour per time reports: Misc. expense on basis of labour spent.
7.	Estimate of time spent.

Departmental Control

A simple method of placing general responsibility for underabsorbed overhead and variances from budget is used. Following the same pattern used in preparing the budgets, the actual expense is compiled each month tieing in with the general ledger.

Every month each department receives a Statement of Departmental Budget and Expense. This statement shows the budget and actual expense last year for the month and for the year to date for each element and in

addition the charges allocated from the service departments. Labour hours are shown for budget, standard and actual.

Overhead variances are computed to show responsibility for underabsorbed overhead. Using the data in the Statement of Departmental Budget and Expense, these variances are developed as follows:

1.	Total Variance:	
	Actual expense	$164,890.00
	Overhead expense absorbed	139,510.00
	Total underabsorbed overhead or total variance	$ 25,380.00
2.	Volume Variance:	
	Budget expense	$149,480.00
	Standard expense	139,510.00
	Volume variance	$ 9,970.00
3.	Controllable Variance:	
	Actual Expense	$164,890.00
	Budget expense	149,480.00
	Controllable variance	$ 15,410.00
4.	Volume variance	$ 9,970.00
	Controllable variance	15,410.00
	Total variance or underabsorbed overhead	$ 25,380.00

COST OF PRODUCTION

The cost of bulk material is obtained by means of the Manufacturing Order. Raw ingredients are costed on the basis of formula requirements plus normal wastage and spoilage. A percentage allowance is added for inventory adjustment. Any abnormal loss is written off to an overhead account. Labour is costed at standard time and rate and overhead is applied at standard time rate. The sum of these factors gives the total cost of the product through the bulk stage.

Each bulk lot retains its control number which follows through to the Finishing Order. The actual quantity of bulk material consumed for a Finishing Order is costed out on that order. When compared with the theoretical usage, any excessive loss is written off to an overhead account.

The packaging materials, labour and overhead are costed on the Finishing Order in a manner similar to raw ingredients. The total packaging costs together with the bulk cost constitute the total product cost. When the cost is posted to the stock record it is compared with the previous cost and if there exists any significant difference the matter is investigated to determine the cause. Clerical errors can usually be caught in this manner.

The Manufacturing Orders and Finishing Orders are summarized separately in a Production Register, for each inventory and other account affected. Journal vouchers are prepared from these monthly totals.

« STUDENT SECTION »

GENERAL ACCOUNTING

(Comments by MR. J. D. CAMPBELL, C.A., R.I.A.)

Accounting II

Question III (10 marks)

The balance sheet of an industrial company, recently published, contained the following items:

(a) Investments in other companies at book value less reserve	$ 91,204
(b) Expenditures on uncompleted contracts at standard cost, less reserve	11,535,373
(c) Stock of raw materials, supplies and small tools at cost which is less than market value, less reserve	4,106,930

Required:

Write a note discussing critically, from the standpoint of statement interpretation, and income measurement, the information given with regard to the valuation of each of these items.

SOLUTION

Statement interpretation

(As the purpose to be served by the statement presentation will govern to some degree the significance of the data presented, the following solution has been drafted on the assumption that the interpretation is being carried out by a credit grantor.)

As the interest of the credit grantor lies in an approximation of market value of the current assets to which the concern holds title, the information presented in the question is deficient to the extent that this information is not revealed.

In cases where it is difficult to determine a reasonable approximation of market as in the case of (b) the alternative value of cost is required. On the basis of the above, answers to the following questions would be required:

(a) What is cost? What is the amount of the reserve? What is the estimated market valuation?

(b) What relationship exists as between standard cost and actual cost? What is the amount of the reserve?

(c) What is the estimated market value? What is the amount of the reserve?

Income Measurement

(The solution to the question involving income measurement has been based on the assumption that the facts presented are being used by one primarily interested in the reported income for the period.)

As the balance sheet values have their counterpart in the charges and credits appearing in the income statement, the amount of the reserves

created applicable to the current period would be of significance. The degree to which there is a carryover from previous periods is also an important factor. In a similar way the relationship between actual and standard cost is significant.

Comment

The solutions presented by the candidates to this problem were unsatisfactory and indicated an apparent failure to realize the requirements of the question. A degree of leniency was used in assigning the marks, due to the difficulty of a specific statement by the candidate without the setting down of certain definite assumptions. The candidates' attention might be called to the utilization of assumptions in the above solution which tend to allow the candidate to present his discussion along specific lines.

Question I (15 marks)

Expenditures of a business during the past accounting period included:

(1) The razing of an old building (now fully depreciated) to make way for the erection of a new building on the same site.
(2) Taxes on timberland on which no timber will be ready for cutting for many years.
(3) The patrolling of the timberland in (2) as a safeguard against fire.
(4) Changing walls and partitions in an office building to meet the requirements of a new tenant on a five years' lease.
(5) The removal to another site of sheds which are to be used as explosives warehouses and which may not be so used in their present site.
(6) The construction of a new roof (with an estimated life of 12 years) on an old building.
(7) The evacuation for a new building.

Required:

(a) Indicate with reasons whether or not each of the expenditures for the above purposes would be charged to a fixed asset account, to some other asset account, or to an expense account.
(b) Give the name of the account to be charged with each expenditure.

Solution

(As the solution submitted will be determined by the nature of the assumptions made it is advisable in each case to clearly indicate the nature of the assumptions made. Care should be exercised that the assumption made does not invalidate the information given to the problem.)

(1) This is a cost of restoring the site to its original condition and fitness as a building lot. It should be charged to the disposal account (P. and L.) for the old building as an expense.

(2) and (3) Both of these items are costs of the growing timber and should be treated as additions to the first cost of the timber lot (fixed asset).

(4) These expenditures are a part of the cost of the revenue to be earned from the lease. They should be entered on an asset account (deferred charge) with some such title as "Alterations to suit new tenants." This asset account would be written off to expense by equal instalments over the term of the lease.

(5) This is part of the cost of the sheds as warehouses for explosives. It should accordingly be debited to the fixed asset account "Explosives buildings".

(6) The cost of the new roof should be treated as a deferred charge (or subdivision of the fixed asset account for buildings) and be written off to expense over its estimated life. (It is to be assumed that the old roof has been fully depreciated and so eliminated from the books).

(7) This is clearly a part of the cost of a fixed asset, but is that asset the land or the building erected on the land? (Depreciation charges will vary with one allocation or the other.) It would seem better to treat it as a part of the cost of the new building so that it will be completely depreciated by the time the building is scrapped. This excavation may be quite unsuited to the needs of the building (if any) which will succeed the present one.

Comment

In marking the question credit was allowed for any treatment which was supported by a reasonable argument.

Among the more common deficiencies in the answers presented was the failure on the part of the candidate to indicate the account to be charged with the expenditure. In several cases this was omitted whereas in others the classification given was too general in nature.

Although the requirements indicated the necessity of indicating reasons many of the candidates failed to set out this requirement.

The following extracts taken from certain of the answers submitted will serve to illustrate the major deficiencies:

(4) "Charge to Plant Account (Fixed Asset) because this is a permanent change . . . "

Note—With the exception of item 7 and from an income tax viewpoint I would be inclined to put the other 6 items into expenses and see if I can get away with it."

(1) "As the old building, although depreciated, still had a certain value even as salvage, the cost of demolishing it should be charged to the cost of erecting the new building.

Debit new building asset account."

(6) "They should be charged against the reserve account."

(5) "This is a maintenance or expense charge and I do not believe it should be capitalized."

(7) "This amount should be capitalized."

(1) "The cost of razing of an old building to make way for erection of a new building on the same site is charged to fixed assets. It is part of the cost of preparing the site for the erection of the new building and therefore is part of the cost of the new building.

The account that is charged is fixed asset building."

(6) "This new roof should be capitalized to Buildings Account as it is extending the life of the fixed asset for a period of twelve years."

COST AND MANAGEMENT

COST ACCOUNTING

(Comments by MR. A. VAN HARRIS, C.A.)

Question 3 (35 marks). Fundamentals of Cost Accounting

The trial balance of the Specialty Manufacturing Company contained among others, the following items for the year ending December 31:

Advertising	$ 2,247.00
Depreciation, Plant Equipment	17,246.83
Direct Labor	78,649.20
Direct Materials Used	86,443.72
Fire Insurance	1,768.90
Foremen and Indirect Labor	22,000.00
Light, Heat and Power	3,864.20
Miscellaneous Manufacturing Expenses	6,762.20
Miscellaneous Office Expenses	2,136.53
Miscellaneous Selling Expenses	1,814.40
Office Salaries	12,500.00
Payroll Robbery Insurance	378.00
Prepaid Taxes	868.95
Rent of Factory	9,500.00
Salesmen's Salaries and Commissions	10,857.29
Superintendent's Salary	8,000.00
Supplies and Indirect Material	4,862.97
Taxes, Manufacturing Property	1,264.50
Work in Process	16,849.74
Workmen's Compensation Insurance	967.40

This company operates a cost system in which direct labor cost and manufacturing expense are combined and charged to production at an average rate per direct labor hour for each manufacturing department. There are three manufacturing departments, A, B and C, each using a separate cost rate. During the year above stated the direct labor cost of Department B was twice that of Department A, and that of Department C was twice that of Department B. The Manufacturing expense chargeable to Departments B and C was for each, three times that of Department A. In the departments the direct labor hours were:

A	7,376
B	22,057
C	22,172

Selling and administrative expense is added at a flat rate per direct labor hour to arrive at the complete cost to make and sell each product. All cost rates are based on the average for the preceding twelve months.

The student is required to:

(a) Show in detail the computation of the "cost" rate per direct labor hour for each department.

(b) Compute the rate per direct labor hour to be used for selling and administrative expense to arrive at the cost to make and sell the product.

(c) Compute the cost to make and sell Order No. 1000 on which was used direct material costing $86 and direct labor hours in each department as follows: A, 54; B, 38; C, 72.

Solution

Specialty Manufacturing Company

(a) Computation of Direct Labour Hour Cost rate for each department.

Apportionment of Direct Labour Cost

Dept. A 1/7	$ 11,235.60
B 2/7	22,471.20
C 4/7	44,942.40
Total	78,649.20

Apportionment of Manufacturing Expense:

Depreciation	$ 17,246.83
Fire Insurance	1,768.90
Foremen and Indirect Labour	22,000.00
Light, Heat and Power	3,864.20
Miscellaneous Manufacturing expense	6,762.20
Rent of Factory	9,500.00
Superintendent's Salary	8,000.00
Supplies and Indirect Materials	4,862.97
Taxes, Manufacturing Property	1,264.50
Workmen's Compensation	967.40
	$ 76,237.00

Dept. A 1/7	$ 10,891.00
B 3/7	32,673.00
C 3/7	32,673.00
	$ 76,237.00

Computation of Hour Rate

	Dept. A	Dept. B	Dept. C
Direct Labour	$ 11,235.60	$ 22,471.20	$ 44,942.40
Manufacturing Expense	10,891.00	32,673.00	32,673.00
	$ 22,126.60	$ 55,144.20	$ 77,615.40
Direct Labour Hours	7376	22057	22172
Cost per Direct Labour Hour	$ 3.00	$ 2.50	$ 3.50

(b) Computation of Distribution Rate for Administrative and Selling Expense:

Advertising	$ 2,247.00
Miscellaneous Office Expense	2,136.53
Miscellaneous Selling Expense	1,814.40
Office Salaries	12,500.00
Payroll Robbery Insurance	378.00
Salesmen's Salaries and Commissions	10,857.29
	$ 29,933.22
Total Direct Labour Hours	$ 51,605.00
Rate per direct labour hour	58

(c) Cost to make and sell Order No. 1000

Direct Material		$ 86.00
Factory Labour and Overhead		
Dept. A	54 hours @ $3.00	162.00
B	38 hours @ $2.50	95.00
C	72 hours @ $3.50	252.00
Cost of Goods Manufactured		$ 595.00
Selling and Administrative Expense	164 hours @ .58	95.12
Cost to make and sell		$ 690.12

Comments

The items which were not necessary in solving the requirements of the problem were "Direct Materials Used", "Prepaid Taxes" and "Work in Process". These all have their place in compiling statements, but their omission by the student indicated his knowledge that they were not called for in this solution.